CSE- 4027 LAB-1 Assignment

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```
 > #'demo()' for some demos
> demo()
>
> #help()' for on-line help
> help()
```

```
 > #'q()' to quit R
> #q()
>
> # To print.
> print("Taran")
```

[1] "Taran"

```
 >
> # Add two numbers.
> print(23.9 + 11.6)
```

[1] 35.5

```
>
> # assignment
> x <- 3
> value <- 5
> # leftward assignment
> x <- value
> x = value
> x <<- value
```

>

```
> # rightward assignment
> value -> x
> value ->> x
>
```

```
> v1 <- c(3,1,TRUE,2+3i)
> v2 <<- c(3,1,TRUE,2+3i)
> v3 = c(3,1,TRUE,2+3i)
> print(v1)
[1] 3+0i 1+0i 1+0i 2+3i
> print(v2)
[1] 3+0i 1+0i 1+0i 2+3i
> print(v3)
[1] 3+0i 1+0i 1+0i 2+3i
```

```
>
> c(3,1,TRUE,2+3i) -> v1
> c(3,1,TRUE,2+3i) ->> v2
> print(v1)
[1] 3+0i 1+0i 1+0i 2+3i
> print(v2)
[1] 3+0i 1+0i 1+0i 2+3i
>
```

```
> # evaluation
> x
[1] 5
>
> nm <- "Taran"
> print (nm)
[1] "Taran"
>
> x <- 1
> y <- 3
> z <- 4
> x * y * z
[1] 12
>
> 8 + 9 / 5 ^ 2
```

```
[1] 8.36
```

```
> 1 / 7
[1] 0.1428571
> pi
[1] 3.141593
>
> t <- 1:10
> v1 <- 8
> v2 <- 12
>
> print(v1 %in% t)
[1] TRUE
> print(v2 %in% t)
[1] FALSE
>
```

```
> # Declare variables of different types
> # Numeric
> x <- 28
> class(x)
[1] "numeric"
>
> # String
> y <- "Iam Taran-19BCE7346"
> class(y)
[1] "character"
```

```
> # Boolean
> z <- TRUE
> class(z)
[1] "logical"
>
> # Logical
> v <- TRUE
> print(class(v))
[1] "logical"
>
> #complex
```

```
> v <- 2+5i
> print(class(v))
[1] "complex"
>
> #Character
> v <- "TRUE"
> print(class(v))
[1] "character"
>
```

```
> abs(x)      # absolute value
[1] 28
> sqrt(x)     # square root
[1] 5.291503
> exp(x)      # exponential transformation
[1] 1.446257e+12
> log(x)      # logarithmic transformation
[1] 3.332205
> cos(x)      # cosine and other trigonometric functions
[1] -0.9626059
```

```
>
> 1 / 0
[1] Inf
>
> #using %/% to get the result of division of first with second vector
> v <- c( 2,5.5,6)
> t <- c(8, 3, 4)
> print(v%/%t)
[1] 0 1 1
```

```
>
> # gives the remainder of the first vector with the second
> print(v%%t)
[1] 2.0 2.5 2.0
>
>
```

```
> # list all objects
> ls()
```

```
 [1] "a"                    "A"
 [3] "apple_colors"         "b"
 [5] "BMI"                  "c"
 [7] "d"                    "df"
 [9] "df2"                  "df3"
[11] "df4"                  "emp.data"
[13] "emp.finaldata"        "emp.newdata"
[15] "factor_apple"         "factor_gender_vector"
[17] "gender"               "gender_vector"
[19] "l1"                   "l2"
[21] "list1"                "M"
[23] "mat"                  "merged.list"
[25] "my_list"              "newMat"
[27] "nm"                   "quantity"
[29] "result"               "t"
[31] "v"                    "v1"
[33] "v2"                   "v3"
[35] "value"                "vect"
[37] "x"                    "y"
[39] "z"
```

```
> # identify if an R object with a given name is present
> exists("x")
[1] TRUE
>
> # remove defined object from the environment
> rm(x)
>
> y<-c(1,3,5)
> # you can remove multiple objects
> rm(x, y)
```

```
> # basically removes everything in the working environment -- use with caution!
> rm(list = ls())
```